

WHAT IS CLAIMED IS:

1. A method of correcting the refractive error in the cornea of an eye, comprising the steps of
 - heating the cornea to loosen the molecules therein, thereby softening the cornea into a gelatinous material;
 - reshaping the gelatinous material, so that it substantially conforms to a predetermined pattern; and
 - cooling the reshaped gelatinous material to maintain it in the predetermined pattern.
2. A method of correcting the refractive error in the cornea of an eye, comprising the steps of
 - positioning a reshaping device having a predetermined first surface adjacent a surface of the cornea, so that it overlies a portion of the cornea,
 - heating the reshaping device to soften the portion of the cornea that the reshaping device overlies, and
 - reshaping the softened portion of the cornea, so that it substantially conforms to the predetermined first surface of the reshaping device.
3. A method according to claim 2, further comprising the steps of
 - monitoring the temperature of the reshaping device using at least one thermal couple; and
 - maintaining the temperature of the reshaping device at a substantially uniform temperature.
4. A method according to claim 2, wherein the positioning step is preceded by the steps of
 - separating a portion of the cornea to form a flap; and
 - moving the flap to expose an internal corneal surface.

098644-110701
FOZOT-TH98660

5. A method according to claim 4, wherein
the positioning step includes positioning the reshaping device adjacent the internal corneal surface.
6. A method according to claim 5, further comprising the step of
repositioning the flap, so that it overlies the internal corneal surface.
7. A method according to claim 4, further comprising the steps of
removing the reshaping device, and
repositioning the flap, so that it overlies the internal corneal surface.
8. A method according to claim 2, wherein
the heating step includes heating the cornea with a laser to soften the portion of the cornea that the reshaping device overlies.
9. A method according to claim 2, wherein
the positioning step includes positioning a reshaping device configured to correct myopia.
10. A method according to claim 2, wherein
the positioning step includes positioning an reshaping device configured to correct hyperopia.
11. A method according to claim 2, wherein
the heating step includes heating the reshaping device using laser light, which in turn transfers heat to the cornea.
12. A method according to claim 11, wherein
the heating step includes heating the reshaping device using laser light in the portion of the electromagnetic infrared spectrum.

13. A method according to claim 2, wherein
the heating step includes heating the reshaping device using microwaves.
14. A method according to claim 2, wherein
the heating step includes heating the reshaping device using a liquid with a predetermined temperature, which in turn heats the cornea.
15. A method according to claim 14, further comprising the step of
administering the liquid through an irrigation port in the reshaping device.
16. A method according to claim 15, further comprising the step of
removing the liquid through an aspiration port in the reshaping device.
17. A method according to claim 2, wherein
the reshaping device is a thermally conductive plate, which is heated to regulate the temperature of the cornea.
18. A method of correcting the refractive error in the cornea of an eye, comprising the steps of
separating a portion of the cornea to form first and second internal surfaces,
moving the first surface away from the second surface,
positioning a reshaping device having a predetermined first surface adjacent the second internal surface, so that it overlies a portion of the cornea,
heating the reshaping device, which in turn heats the cornea to soften the portion of the cornea that the reshaping device overlies, and
reshaping the softened portion of the cornea, so that it substantially conforms to the predetermined first surface of the reshaping device.
19. A method according to claim 18, further comprising the steps of
monitoring the temperature of the reshaping device using at least one thermal couple; and

maintaining the temperature of the reshaping device at a substantially uniform temperature.

20. A method according to claim 18, wherein
the heating step includes heating the reshaping device so that the heat is distributed substantially uniformly through the reshaping device.
21. A method according to claim 18, further comprising the steps of
removing the reshaping device, and
repositioning the first surface, so that it overlies the second surface.
22. A method according to claim 18, wherein
the heating step includes heating the reshaping device with a laser, which in turn heats the cornea and softens the portion of the cornea that the reshaping device overlies.
23. A method according to claim 18, wherein
the positioning step includes positioning a reshaping device configured to correct myopia.
24. A method according to claim 18, wherein
the positioning step includes positioning an reshaping device configured to correct hyperopia.
25. A method according to claim 18, wherein
the heating step includes heating the reshaping device using laser light.
26. A method according to claim 25, wherein
the heating step includes heating the reshaping device using laser light in the infrared portion of the electromagnetic spectrum.
27. A method according to claim 18, wherein
the heating step includes heating the reshaping device using microwaves.

28. A method according to claim 18, wherein

the heating step includes heating the reshaping device using a liquid with a predetermined temperature.

29. A method according to claim 28, further comprising the step of

administering the liquid through an irrigation port in the reshaping device.

30. A method according to claim 29, further comprising the step of

removing the liquid through an aspiration port in the reshaping device.

31. A method according to claim 18, wherein

the reshaping device is a thermally conductive plate, which is heated to regulate the temperature of the cornea.

32. A method of correcting the refractive error in the cornea of an eye, comprising the steps of

separating a portion of the cornea to form first and second internal surfaces,

moving the first surface away the second surface,

positioning an inlay having first and second surfaces adjacent the second internal surface,

positioning a reshaping device having a predetermined first surface adjacent the second surface of the inlay,

heating the reshaping device, which in turn heats the inlay to soften the inlay, and

reshaping the softened portion of the inlay, so that it substantially conforms to the predetermined first surface of the reshaping device.

33. A method according to claim 32, further comprising the steps of

monitoring the temperature of the reshaping device using at least one thermal couple; and

maintaining the temperature of the reshaping device at a substantially uniform temperature.

34. A method according to claim 32, wherein
the heating step includes heating the reshaping device so that the heat is distributed substantially uniformly through the reshaping device.
35. A method according to claim 32, further comprising the steps of
removing the reshaping device, and
repositioning the first internal surface, so that it overlies the second surface of the inlay.
36. A method according to claim 32, wherein
the heating step includes heating the reshaping device with a laser, which in turn heats the inlay and softens the inlay.
37. A method according to claim 32, wherein
the heating step includes heating the reshaping device using a liquid with a predetermined temperature.
38. A method according to claim 37, further comprising the step of
administering the liquid through an irrigation port in the reshaping device.
39. A method according to claim 38, further comprising the step of
removing the liquid through an aspiration port in the reshaping device.
40. A method according to claim 32, wherein
the reshaping device is a thermocouple plate, which is heated to regulate the temperature of the cornea.